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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,627	10/03/2006	Harald Schmid	870-003-216	2021

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EXAMINER	
GUSHI, ROSS N	

ART UNIT	PAPER NUMBER
2833	

MAIL DATE	DELIVERY MODE
07/14/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/599,627	SCHMID ET AL.	
	Examiner	Art Unit	
	ROSS N. GUSHI	2833	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *6/12/08*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/12/08 has been entered.

Claim Rejections - 35 USC § 102 and 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 1, 2, 3, 4, 7, 12, 13, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsieh in view of Kawaguchi et al. ("Kawaguchi"). Per claim 1, Hsieh discloses an electrical interconnection arrangement comprising a circuit board (56); a generally three-dimensional contact element (10) having a base part (e.g. at 16, 14, and/or including one tongue 30, and including portions marked on previously supplied attachment) facing said circuit board and having a predetermined footprint; an electrical conductor path (60) applied to said circuit board and adapted to the shape of said

footprint; a solder connection (58) extending between said conductor path and said contact element; passthrough openings (openings holding feet 48, 50) located within a perimeter defined by edges of said conductor path; metallized portions provided at least one end of said passthrouqh openings (the conductor 60 includes the passthrough openings, see figure 2); feet (48, 50) provided on said contact element, said feet being redirected by bending to match associated passthrouqh openings, and pressed into these associated passthrouqh openings; solder connections 58 between said pressed-in feet and said associated metallized portions; a contact tongue (30) that is resiliently articulated on said base part and forming an insertion opening between said contact tongue and said base part for insertion of an electrical conductor into said insertion opening and for connecting it to said contact element.

Regarding the limitation that the feet are “pressed into” the openings, the examiner maintains that "pressed into" does not mean the same thing as "press-fit." Hsieh discloses that Hsieh terminal is attached by "inserting" the sections 48, 50 into the openings (col. 2 line 64) and that “inserting” is the same as "pressing into." However, to expedite prosecution, to the extent that "pressed into" might be interpreted as requiring a "press-fit," Kawaguchi discloses well known press fit feet 14. At the time of the invention, it would have been obvious to replace the Hsieh feet with press fit feet as taught in Kawaguchi and as is well known in the art. The suggestion or motivation for doing so would have been to simplify assembly (since the contact would be conveniently held by the board prior to soldering) of the contact and board as taught in Kawaguchi and as is well known in the art.

Per claim 2 at least one lateral guidance member (e.g. walls 18, 20) for the electrical conductor is provided on the contact element

Per claim 3 the lateral guidance member is implemented integrally with the base part.

Per claim 4, said feet each have an attachment end adjacent said contact element and a free end remote from said contact element, and at least some of the feet have a reduced width in the region of adjacent the free end.

Per claim 7 the electrical conductor is implemented as a flat conductor.

Per claim 12, at least one portion of said contact element is configured to rest snugly against said circuit board while at least one of said feet has a major axis at an angle to said circuit board, thereby creating a bending radius at a connection between said foot and said contact element portion, and wherein a bowed segment (see attachment) is provided at said connection, thereby defining a clearance between said segment and said board.

Regarding claim 13, to the extent that the Hsieh bowed section is not bowed to completely reverse direction, the amount of curvature of the bow could be varied as desired. The degree of bowing of would have been a matter of engineering design choice. See In re In re Dailey, 149 USPQ 47 (CCPA 1966).

Per claim 14 said contact tongue (32) mechanically clamps said electrical conductor between the base part and said tongue.

Claims 5, 6, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsieh and Kawaguchi in view of Bender '0144398 and Bender '501. Note that Bender '0144398 discloses the same invention as Bender '501. Bender '501 is cited since it

includes the figures referred to in the earlier publication '0144398. Per claim 5, the electrical conductor is inserted engaged between contact tongue and base part. Hsieh does not state that the conductor is welded to the element. Bender discloses laser welding mating contact parts. At the time of the invention, it would have been obvious to attach the conductor to the element using laser welding as is taught in Bender and as is well known in the art. The suggestion or motivation for doing so would have been to establish a secure permanent connection as taught in Bender and as is well known in the art.

Regarding claim 8, Hsieh does not show that the flat conductor is implemented configured for mechanical latching with the contact tongue. Bender discloses mechanical latching means (latch 8 and corresponding recess on contact 7). At the time of the invention, it would have been obvious to include well known latching means such as taught in Bender on the Hsieh device. The suggestion or motivation for doing so would have been to secure the devices together as taught in Bender and as is well known in the art.

Per claim 9 Bender discloses the contact tongue comprises a projection 8, and the flat conductor is equipped with a recess for engagement of that projection.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al. ("Nelson") in view of Hsieh. Per claim 1, Nelson discloses an electrical interconnection arrangement comprising a circuit board equipped with having at least one conductor path (implicit) applied thereon, and a contact element for contacting an electrical conductor adapted to transport current to and from said circuit board, and a generally

three-dimensional contact element (20) adapted to conductively interconnect said electrical conductor and said at least one conductor path on said board, the circuit board has passthrough orifices within a perimeter defined by edges of said at least one conductor path; the contact element has a base part (22 and including flange 32) and feet (36, 42) provided on the base part which engage said orifices of the circuit board; the contact element is electrically connected adjacent its base part to the conductor path by means of a soldered connection (39); the contact element has a contact tongue (24, 26) that is resiliently articulated on the base part and is implemented for contacting adapted both to mechanically engage with and to electrically contact the electrical conductor. To the extent that the circuit board having passthrough orifices within a perimeter defined by edges of said at least one conductor path is not shown, the examiner takes judicial notice that such boards with conductor paths are well known in the art. At the time of the invention, it would have been obvious to use the Nelson contact 20 on a circuit board having passthrough orifices within a perimeter defined by edges of said at least one conductor path. The suggestion or motivation for doing so would have been to electrically connect terminals to a board as is well known in the art.

Nelson does not show solder connecting the base to the board (the solder is shown on the bottom of the board at 39). Hsieh discloses soldering the connector to the board on the top of the board where the base of the connector and board meet. At the time of the invention, it would have been obvious to solder the connector to the top of the board, as at base/flange 32. The technique of soldering the connector to the board at the top of the board (as shown in Hsieh) is well known. One with ordinary skill in the

art would have realized that applying the known technique taught in Hsieh to solder the connector to the board would have yielded predictable results. KSR International Co. v. Teleflex Inc., 82 USPQ.2d 1385 (2007).

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson and Hsieh in view of Orihara and Chen. Nelson does not show an orifice for receiving solder paste. Orihara and Chen each disclose orifices for receiving solder (see notches 18, a8a, 18b in Orihara and orifice 208 in Chen. At the time of the invention, it would have been obvious to include orifices on the Nelson base at 32 as taught in Chen and Kawaguchi and to solder the Nelson flange 32 to the board. The suggestion or motivation for doing so would have been to facilitate a soldered connection between the terminal and the board as taught in Chen and Kawihara and as is well known in the art.

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsieh and Kawaguchi in view of Orihara and Chen. Hsieh does not show an orifice for receiving solder paste. Orihara and Chen each disclose orifices for receiving solder (see notches 18, a8a, 18b in Orihara and orifice 208 in Chen. At the time of the invention, it would have been obvious to include orifices on Hsieh soldered portion at 58 (such as a notch or hole in the tab at the soldered location) as taught in Chen and Kawaguchi. The suggestion or motivation for doing so would have been to improve the soldered connection between the terminal and the board as taught in Chen and Kawaguchi and as is well known in the art.

Response to Arguments

Regarding claim 1, applicant argues that the Hsieh contact could be ripped away. This is irrelevant to what is claimed. Applicant argues that the opening is different. This is irrelevant to what is claimed.

Regarding claims 5, 6, etc, applicant argues that there is no motivation to combine. The suggestion or motivation for doing so would have been to establish a secure permanent connection as taught in Bender and as is well known in the art.

Regarding claim 15, applicant's arguments are moot as pointed out by applicant. Regarding the combination of Hsieh and Kawaguchi, 1) the examiner maintains that "pressed into" is not the same as "press-fit" and 2) even if "pressed into" requires a "press-fit," the modification would have been obvious for the reasons noted above.

Regarding "NELSON/TURO," in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ross Gushi whose telephone number is (571) 272-2005. If attempts to reach the examiner by phone are unsuccessful, the examiner's supervisor, Renee Luebke, can be reached at (571) 272-2009. The phone number for the Group's facsimile is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Ross N. Gushi/

Primary Examiner, Art Unit 2833